

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (currently amended) A method for viewing seismic data **associated with a seismic area of interest, said method** comprising:
 - a. generating a prestack seismic display having a plurality of CMP gathers, wherein each gather has constant spatial coordinates associated therewith;
 - b. for each CMP gather, defining a time or depth window around seismic data of interest **to generate a multidimensional CMP gather utilizing at least four dimensions;**
 - c. **plotting a seismic field representation based on the seismic area of interest; and**
 - d. **overlaying said multidimensional CMP gather on the seismic field representation by** plotting said window in plan view using the spatial coordinates associated with said window ~~to generate a multidimensional plan view, wherein said multidimensional plan view utilizes at least four dimensions.~~
2. (currently amended) The method of Claim 1 ~~further comprising the step of overlaying the multidimensional plan view on a second wherein said~~ seismic **field** representation **is derived from the seismic data.**
3. (currently amended) The method of Claim ~~2~~ 1 wherein the ~~second~~ seismic **field** representation is a contour map.
4. (currently amended) The method of Claim 1 further comprising the step of inserting the multidimensional ~~plan view~~ **CMP gather** into an immersive environment.

5. (currently amended) A method for viewing seismic data related to a lithologic structure comprising:
- a. generating a poststack seismic display having a plurality of poststack traces around a point of interest, wherein each poststack trace has a constant spatial coordinates associated therewith;
 - b. for each poststack trace, defining a time or depth window around seismic data of interest **to generate a multi-dimensional poststack trace;**
 - c. plotting **said lithographic structure in the form of at two fields associated therewith; and**
 - d. overlaying said fields with said multi-dimensional poststack trace by plotting said window in plan view using the spatial coordinates associated with said window to generate a multidimensional plan view, wherein said multidimensional plan view utilizes at least four dimensions.**
6. (original) The method of Claim 1 further comprising the steps of analyzing trends in the data segments by viewing multiple segments in spatial relationship to one another.
7. (deleted) ~~A method for viewing seismic data having a plurality of dimensions associated therewith, said method comprising:~~
- ~~a. presenting the seismic data in a multidimensional plan view, wherein said multidimensional plan view utilizes at least four dimensions.~~
8. (currently amended) The method of Claim 7 1 wherein said ~~multidimensional plan view~~ **utilizes** at least four dimensions comprise an x-dimension, a y-dimension, a depth dimension and a fourth dimension for the ~~seismic data~~ **multidimensional CMP gather** and wherein said fourth dimension is based on another seismic attribute of the **CMP gather seismic data.**
9. (original) The method of Claim 5 further comprising the steps of analyzing trends in the data segments by viewing multiple segments in spatial relationship to one another.